From:	Kraft, Nicole
To:	Pappachen, Andrew
Cc:	Vinciguerra, Amy; Rich Paull; Fell, Karen; Zalaskus, Diane; Adebowale, Andrea; Gelin, Michel; Awertschenko, Michael; Brown, Jackie; Moran, Edwin; Liccese, Joseph
Subject:	RE: Chlrine tracer study - Newark Pequannock Water Treatmetn Plant - 101515 - Dock No. SDWA-02-2015-8003
Date:	Tuesday, December 22, 2015 10:40:00 AM

Thank you, Andrew.

We would also like to see the actual calculation. If it is a hand written calc, please scan and email. If a spreadsheet is being used, please attached a copy of the file.

We also asked how this calculation will be done on a daily basis (by hand, in a spreadsheet, etc) and asked who on staff typically performs the calculation.

Appreciate the follow-up on the three items above so we have all the information requested!

Nicole Foley Kraft / Section Chief / U.S. EPA Region 2 / 290 Broadway, NY, NY 10007 /
ph: 212.637.3093 / fax: 212.637.3953 / kraft.nicole@epa.gov

From: Pappachen, Andrew [mailto:pappachena@ci.newark.nj.us]
Sent: Tuesday, December 22, 2015 10:22 AM
To: Kraft, Nicole <Kraft.Nicole@epa.gov>
Cc: Vinciguerra, Amy <Vinciguerra.Amy@epa.gov>; Rich.Paull@dep.nj.gov; Fell, Karen <Karen.Fell@dep.nj.gov>; Zalaskus, Diane <Diane.Zalaskus@dep.nj.gov>; Adebowale, Andrea <Adebowalea@ci.newark.nj.us>; Gelin, Michel <Gelinm@ci.newark.nj.us>; Awertschenko, Michael <awertschenkom@ci.newark.nj.us>; Brown, Jackie <brownja@ci.newark.nj.us>; Moran, Edwin <morane@ci.newark.nj.us>; Liccese, Joseph <Joseph.Liccese@dep.nj.gov>
Subject: Re: Chlrine tracer study - Newark Pequannock Water Treatmetn Plant - 101515 - Dock No. SDWA-02-2015-8003

Nicole:
The tracer study concluded that with clearwell at 603 feet (Normally we operate above 603 feet), the chlorine trave (contact) time from post chlorination point to sample house (entry point) is 39 minutes at 30 MGD flow. Based on this conclusion, we have developed a chart of chlorine travel time at various flow rates, which is attached. We currently use this chart to calculate the daily CT and calculate CT to CT required ratio. With a higher residual at sample house,w e are getting the ration at 0.9 to 1.1. Our first customer is further downstream from the sample house.
The tracer study was conducted from post chlorination point to sample house. The application point for post chlorination is the filtered water channel. From there, water enters the clear wells (two at a total capacity of 900,000 gallons). From the clear well, water enters the 72 inch pipe, travels about 7,000 feet to a cone valve chamber, where

the line divides into two pipes, a 42 inch and a 48 inch, and travels another 1,650 feet to sample house.

Andrew Pappachen
Director of Public Works, Dept. of Water & Sewer Utilities
1294 McBride Ave., Little Falls, NJ 07424
Little Falls: 973-256-4965
Water Treatment Plant: 973-697-5992

From: Kraft, Nicole <Kraft.Nicole@epa.gov>
Sent: Monday, December 21, 2015 4:23 PM
To: Pappachen, Andrew
Cc: Vinciguerra, Amy; Rich.Paull@dep.nj.gov; Fell, Karen; Zalaskus, Diane; Adebowale, Andrea; Gelin, Michel; Awertschenko, Michael; Brown, Jackie; Moran, Edwin; Liccese, Joseph
Subject: RE: Chlrine tracer study - Newark Pequannock Water Treatmetn Plant - 101515 - Dock No. SDWA-02-2015-8003

Andrew,

Thank you for sending the tracer study report. In order for EPA and NJDEP to fully evaluate the results and the adjustments you have made to the disinfection process, we will need to see the CT calculation you are using, in whatever form it is available (electronic spreadsheet, calculating by hand, etc.). This calculation must include the values you are using for each segment of the disinfection process, i.e. baffling factors, pipe lengths and diameters, clearwell volume. In addition, we would like to know how you will do the calculation moving forward (i.e. spreadsheet, by hand) and who on Newark WD's staff will be responsible for doing the calculation.

Thank you in advance for your cooperation.

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